



LST married to 1620 ft. Pontoon Causeway Pier (longest on record) at Huelva, Spain.

Next remember that interest is a charge for money and that it has a dimension in time. Because engineering alternatives involve comparisons of equal money amounts for different times or different money amounts for equal times, these variables must be tied together by some common function. The rate of interest supplies this tie.

Further, because time is an exponent in equations for interest, variations in the money amounts or in the time periods produce wide and usually rapid divergence when two or more alternatives are compared. Similarly, the rate of interest selected produces a marked effect, since this factor is raised by the power of the exponent—time.

Finally, interest must be applied across the periods of the times under study, because it is the only measure of the value the money would actually have if left in the hands of the lender and the only reflection of the true cost of an investment to the Government (borrower).

This leads inescapably to the reason why a simple inspection of first costs is oversimplification. The true costs are comparable only when converted to uniform series of annual payments, or to present worths if one prefers.

If all this can be granted, what rate of interest is appropriate for a military engineer?

Interest Rate Applied

Some non-federal public works authorities customarily use a rate between three and four percent per annum. The burden appears low.

One federal source, and it seems authority enough—the Bureau of the Budget—offers a guide. In its 1959 Bulletin No. 60-2 on commercial-industrial activities of the Government, the following footnote appears:

“After having determined the value of the Government’s investment in the activity, the interest cost

should be computed by using the current average market yield of outstanding marketable obligations of the United States, having maturities comparable to the useful life of the item.”

This is a pretty tall order. U. S. Government and Agency bonds, notes, bills, etc. (there were forty-seven different kinds in 1959, and as many or more now) are sold and traded in the market like any other commodity. Some are rated for interest and others at face amount. Those carrying specified interest rates are bid for at the price the buyer is willing to lend for that interest; the fixed amount types are purchased by the buyer who offers the least interest charge. Some are long-term and others short. But whatever the types, because these complicating factors exist, the rates of interest the Government pays are many and they change from issue to issue. It is therefore difficult to compute an exact average interest that can be used without challenge for the total outstanding obligations.

Those obligations having maturities approximately equal to the lives of the alternatives are less difficult to extract from the financial pages of the newspapers, but their meanings have uncertain value. For instance, many capital investment alternatives compare a single long life with a series of renewable shorter lives—what interest or what yields should apply for what periods. Additionally, yield is an expression of worth to an ultimate owner based on his purchase price; it derives from, but does not necessarily reflect, the interest charge to the Government—the original seller. Finally, neither the yields nor the interest rates pay their due to the cost of initiating and servicing the loans.

Rational Solution

The dilemma seems severe, but there is a rational solution if the thing is put in context. The military engineer is dealing in the future where nothing is inevitable. His estimates may go awry, the cost of money may gyrate, missions may change, bases may close, technology may completely ruin his assessment of useful lives. So it is fruitless to seek the fifth decimal point in what is essentially a slide rule operation. It is far easier to estimate intelligently a defensible rate of interest.

A departure point is the current ratio of interest payments to debt. In Fiscal 1966 this is 3.6%. This must be tempered by subjective evaluations of the administrative machinery required for servicing the debt, of the inconvenience to the taxpayer of being deprived of satisfactions and earnings he might otherwise enjoy, and of the risks that the future will not be

continued on page 16

Paperwork-"The Endless Horizon"

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This article is an excerpt from a speech, "The Endless Horizon," given at a Paperwork Symposium held in the International Conference Room, State Department, on 16 November 1964. Mr. Carey first discussed the impact of President Johnson's recent order to initiate a planning-programming-budgeting system throughout the Executive Branch. Most REVIEW readers are familiar with the concept of the system, which is similar to the one developed in the Office of the Secretary of Defense in 1961 and used throughout DOD.

By far the most important feature of the new Planning-Programming-Budgeting System is the quality of the analytic work that is done by the agencies. Here we will be focussing on the consideration and weighing of alternative objectives and programs, in terms of the probable payoffs to be obtained from various investments, and we will be using systems analysis and operations research. In other words, what is now being called the "new administrative technology" is being deliberately and consciously worked into the vital decision-making process that—one way or another—*must* be improved in these times of relentless policy innovation and twelve-digit budgets.

The new system will probably confront us with some very uncomfortable choices. There is little doubt in my mind that it will raise very serious questions about the contemporary relevance of some Government programs that have come to be taken for granted, year after year. It will force us to think in terms of trade-offs between continuing existing programs, or organizations, or installations, or procedures, and meeting new needs which we can finance only by the process of substitution of resources. The fur will fly, and the going will be tough. But in a purposeful society which expects its Government to do first things first and get full value for the dollars it spends, this is what the future holds. And I think it will be better Government.

Cost Reduction Effort

Now, as a corollary to all of this, the President has also made it clear that he expects every agency head to set in motion a formal cost reduction effort based on concrete targets for savings and specific plans for meeting them. This is the President's War on Waste, and he wages it every day. He has instructed us, incidentally, to show him what each

agency's cost reduction plans are before we ask him to approve the agency's budget for next year. If your agency has not submitted a program that meets the President's expectations, there is likely to be a very lively telephone conversation originating from the oval office in the White House. The President doesn't want rhetoric. He wants to know exactly what each agency is doing to reorganize, to close out activities that are nice to have but are not vital, to introduce efficient information-processing equipment, to improve the utilization of manpower, to use excess and surplus Government property, to share high-priced ADP equipment, to join other agencies in common services, to eliminate marginal reports and publications, to use sampling methods for getting necessary information. And surprisingly, cost reduction works. Over a year and a half, it produced savings of \$5 billion in Defense alone, and over \$1 billion in the nondefense agencies. I can promise you that we are going to hear more rather than less about it over the coming year.

Cost-Avoidance

When we talk about reducing paperwork costs, we often are trying to put the toothpaste back into the tube. What about cost-avoidance? We cause most of our own grief. When we organize our public business badly, we not only invite duplication and overlapping and administrative friction, but we make it necessary to pile up paperwork as a desperate attempt to compensate for organizational mistakes. A few weeks ago, for instance, we found that four major departments of the Federal Government were getting into the business of making grants and loans for water and sewer systems throughout the country. This could have resulted in appalling confusion. And so we formed a task force to work out jurisdictions and

cutoffs, and information on the grants and loans. Now we think the program will work. But how many of these situations slip past unnoticed until the harm is done? I simply want to stress the point that cost-avoidance begins at the stages of legislative planning, budgeting, and management analysis. Paperwork is not created in a vacuum; it is a result of decisions that are made every day by people whose minds are on other things. They are the program managers, the people in the line, the coordinating bodies, the oversight committees, the investigating groups, and the research-minded. And so I say that if we are going to make progress in avoiding root causes of unnecessary paperwork, there will have to be a lot more educating done at the points where major decisions are made in Government—both in the executive and legislative branches.

ADP Contributes

I suppose nobody knows what the cost of paperwork in the Government is; and perhaps that's just as well. It would take a lot of paperwork to find out. But we do have some idea what it is costing to modernize that part of our information handling that is computerized. Our annual public investment in ADP runs at about \$3 billion and even this may not tell the whole story. The very existence of this new technology invites its proliferation. Now there is little doubt that the Government has saved a great deal of money, and improved its productivity, by converting conventional information-handling over to automated systems. Our Supply Systems, and our Insurance Operations are cases in point. We have accomplished a great deal to improve productivity in most of the places where we have large concentrations of clerks. In addition we are accomplishing tasks now that literally could not have been done without computers—as in space, and medical research. And there are exceedingly interesting new opportunities to extend the art in sectors of Government operations that are going to bog down in a few years unless something drastic is done—for example, the independent regulatory agencies, where backlogs are a way of life and economic decisions have profound consequences for a growing and healthy economy. But having said all this, we still have to reckon with the fact that we can make costly mistakes in taking the long leap to computers. We must do a great deal more if this \$3 billion a year is to be spent responsibly; and this will mean a stronger drive for machine compatibility, for equipment sharing, and for language standardization. Whether we keep our information on

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as I define it.

Common Sense Approach

✓ There is one avenue for reducing paperwork costs that does not require expert technical knowledge of the computer. That avenue is the common sense evaluation of the reports that the computer produces.

A common complaint is that we produce too much information and not enough of the right kind. Right here in the State Department building valiant efforts are being made to help the harassed men who must read huge quantities of reports for fear of missing something crucial, but who still complain that they don't get enough of the right kind of information.

Here again we have created our own problems. We have invented all these wonderful ways to produce information, even including the direct connection of the computer to the printer's press, and those of us in a position to push the buttons succumb to the temptation to produce all the information possible rather than just what is needed. It's the human factor.

And the human factor keeps turning up wherever we touch paperwork. If I may get a little personal, I have achieved a status in my old age that entitles me to write letters back to the people who write in to the President. Each morning I can depend upon it that the big red jacket will be on my desk, full of letters that need only my signature. I usually have a choice: I can cover up the body of a letter and sign it as fast as I can write my name, or I can read what I am being asked to sign. I always contemplate that choice before I open the folder, but after I play this little game I inevitably wind up reading the prose that has been prepared for export.

Simplified Writing

Now, I come from a literate organization, all things considered, and yet I find that I am obliged to make repairs to a fair number of what we picturesquely call "final drafts" because they just aren't the kind of thing I wish to stake my immortality upon. (I imagine homes all over America with framed copies of letters from Mr. Carey of the Executive Office, each a fine blend of the best prose of the Charles and the Peder-nales Rivers; and it is an apocalyptic vision.) So I sit at my desk repairing these letters like my grandmother used to darn socks. And I keep asking myself whatever became of the gift of clear, concise, and responsive expression. To carry this confession a step further, my own prose is generally improved upon by my Director, and I have the notion that if the President himself had the time to do it he would rewrite half of the correspondence issued by the White House.

As a matter of fact, I have suggested that we should publish as a schoolmaster, and when he came to the White House and started to read staff drafts of state documents and messages—including the Budget Message and the Economic Report—he lost no time in distributing D's and F's. We found that the President wanted economy not only in the field of costs, but in the world of words, and it was a shock. Out went the Ciceronian periods and the graceful cadences of the 19th Century, and in their place came the short sentences, tight paragraphs, indentations, key words, and underscoring that fitted the new President's style. Now and then somebody still tries to launch a balloon filled with wind past the President, but his vigilance is excellent and most of them hit the ground before achieving enough altitude to get safely past the West Wing.

I have a lot of sympathy for the decree issued by the present Budget Director to his staff before he had been on the job long enough to learn the direction of the lunch room. He issued a declaration to the effect that the next person to send him a paper using such passive voice expressions as "it is believed" and "it is therefore concluded" would be shot on sight. A small gesture, perhaps, but expressive of a deep agony of literary frustration.

After all, words are delicate agents of ideas. It was Holbrook Jackson, reflecting on the astonishing virility of the English language, who decided that its vigor resulted from its propensity to live dangerously. "It is the most adventurous of all languages," he said, "coming from anywhere and going everywhere, while paying so little homage to rules that it seems to risk destruction by indiscriminate breeding and uncontrolled immigration." And in this age of specialized management, technology, and what I call "consultantship," we are in more danger than ever of burying understanding under an avalanche of self-important jargons and dialects. But the greater sin is to be intentionally vague, pompous, or ambiguous.

Gettysburg Address

There is an oft-told tale of the occasion when the Gettysburg Address was submitted for clearance to an interdepartmental committee. Every agency had a number of helpful suggestions. It is alleged that the State Department "objected to the phrase 'our forefathers brought forth upon this continent' on the grounds that while technically correct the phrase was so loosely worded as to leave the impression that we thought the entire continent belonged to us, a position in conflict with our current hemispheric policy. State therefore suggested as a substitute the phrase 'our

north by 49 degrees North Latitude, on the south by 30 degrees North Latitude, on the west by the Pacific Ocean, and on the east by the Atlantic.' Defense suggested that in place of 'we are now engaged in a great civil war' the statement say 'we have now entered on a period of civil uncertainty involving fairly full mobilization.' "

In a way, I am suggesting that we will make more inroads on the paperwork problem if we worry less about how dignified we sound and concentrate more on telling people what they need to know. Malcolm Muggeridge has remarked that most of our errors are committed because of too much solemnity, rather than too much mirth. We surely cannot laugh at the cold war, or at the hot one in Vietnam, or at poverty, or at our stricken cities; indeed, we have been looking the other way for too long. But it is no answer to these gigantic challenges to react by over-administering our business, by substituting reports and statistics for decisions, by piling one layer of control and supervision over others, or by indiscriminately milking Xerox machines under the delusion that this is instant efficiency.

The operation of our Government necessarily is dependent upon a web of paperwork systems, and those systems are expensive. You have a big responsibility to help improve the quality of paperwork and to reduce its cost.

Cost reduction—and cost-avoidance—in paperwork management as in most other worthwhile affairs is tough, unspectacular, and generally unpopular work. Everybody thinks the other fellow does too much paperwork, while his own is essential. For too many of us, it is the crutch that we lean on. Take the crutch away gently, so we won't fall flat on our faces, but by all means take it.

Pass On The Review

This copy of the NAVY MANAGEMENT REVIEW is intended for ten readers. All should see it as soon as possible. Read it - then pass it along. Others are also interested in better management in the Navy and the Marine Corps.